

WHAT IS CLAIMED IS:

1. A method for inspecting a component, said method comprising:  
  
coupling the component to a fixture such that the component is fixedly secured in position during machining of the component; and  
  
inspecting the component using an inspection tool while the component is coupled to the fixture.
2. A method in accordance with Claim 1 wherein coupling the component to a fixture further comprises machining the component using a machining apparatus while the component is coupled to the fixture.
3. A method in accordance with Claim 2 wherein inspecting the component further comprises coupling the inspection tool to at least one of the fixture and the machining apparatus.
4. A method in accordance with Claim 1 wherein inspecting the component further comprises measuring at least one of a thickness and a length of the component.
5. A method in accordance with Claim 1 wherein the inspection tool includes a probe having at least a first and a second probe tip, inspecting the component further comprises measuring a thickness of the component using the first and the second probe tips.
6. A method in accordance with Claim 5 wherein measuring a thickness of the component comprises:  
  
positioning the first probe tip in contact with a first surface of the component;  
  
positioning the second probe tip in contact with a second surface of the component; and

determining a thickness of the component using the location of the first probe tip and the location of the second probe tip.

7. An inspection tool comprising a first probe having a probe body, a first probe tip coupled to said probe body, and a second probe tip coupled to said probe body, said first probe configured to inspect a component using said first and second probe tips.

8. An inspection tool in accordance with Claim 7 wherein said first probe configured to measure a thickness of the component using said first and second probe tips.

9. An inspection tool in accordance with Claim 7 further comprising:

a shaft including at least one roller bearing slidably coupled to said shaft; and

a connecting member, said shaft coupled to said second probe tip and said connecting member, said first probe tip and said second probe tip selectively positionable with respect to each other.

10. An inspection tool in accordance with 7 further comprising a second probe configured to measure a length of the component.

11. An inspection tool in accordance with Claim 7 further comprising a second probe configured to measure a location of a surface of a fixture used to fixedly secure the component in position during at least one of inspection and machining of the component.

12. An inspection tool in accordance with Claim 7 wherein the component is a gas turbine engine shroud segment including a snubber section, said first probe tip configured to contact a first surface of the snubber section, said second probe tip configured to contact a second surface of the snubber section, said probe

configured to determine a thickness of the snubber section using the locations of said first and second probe tips.

13. An inspection tool in accordance with Claim 7 wherein the component is a gas turbine engine shroud segment including a racetrack section, said first probe tip configured to contact a first surface of the racetrack section, said second probe tip configured to contact a second surface of the racetrack section, said probe configured to determine a thickness of the racetrack section using the locations of said first and second probe tips.

14. An inspection tool in accordance with Claim 7 wherein said inspection tool coupled to a fixture, the fixture configured to couple with the component such that the component is fixedly secured in position with respect to the fixture during machining of the component, said inspection tool configured to inspect the component while the component is coupled with the fixture.

15. An inspection tool in accordance with Claim 7 wherein said inspection tool coupled to a machining apparatus used for machining the component, the machining apparatus comprises a fixture coupled thereto, the fixture configured to couple with the component such that the component is fixedly secured in position with respect to the fixture during machining of the component, said inspection tool configured to inspect the component while the component is coupled with the fixture.

16. An inspection apparatus for inspecting a component, said inspection apparatus comprising:

a machining apparatus configured to machine the component;

a fixture coupled to said machining apparatus and configured to couple to the component such that the component is fixedly secured in position during machining of the component; and

an inspection tool coupled to at least one of said fixture and said machining apparatus, said inspection tool configured to inspect the component while the component is coupled to said fixture.

17. An inspection apparatus in accordance with Claim 16 wherein said inspection tool comprising a probe coupled thereto and configured to measure a length of the component.

18. An inspection apparatus in accordance with Claim 16 wherein said inspection tool comprising a probe coupled thereto and configured to measure the location of a surface of said fixture.

19. An inspection apparatus in accordance with Claim 16 wherein said inspection tool comprising a probe coupled thereto and configured to measure a thickness of the component.

20. An inspection apparatus in accordance with Claim 19 wherein said probe comprising a probe body, a first probe tip coupled to said probe body, and a second probe tip coupled to said probe body, said probe configured to measure a thickness of the component using said first and second probe tip.